

What is claimed is:

1. A method for reducing wear between a disc and a read/write head of a data storage device to improve a reliability of the data storage device by steps comprising:

- 5 (a) detecting an idle condition of the data storage device;
(b) raising a fly height of the read/write head to a maximum setting;
(c) executing a sweep cycle routine; and
(d) lowering the read/write head to a data transfer fly height upon receipt of
a seek command to improve the reliability of the data storage
10 device.

2. The method of claim 1, in which the sweep cycle routine of executing step (c) is executed by steps comprising:

- (c1) setting a sweep cycle timer;
15 (c2) moving the read/write to an inner information track of the disc;
(c3) lowering the fly height of the read/write head;
(c4) aligning the read/write head with an outer information track of the
disc;
(c5) raising the fly height of the read/write head to the maximum setting;
20 and
(c6) oscillating the read/write for a predetermined period of time.

3. The method of claim 2, in which the read/write head of aligning step (c4) is aligned with the outer information track of the disc by steps

- 25 comprising:
(c4a) moving the read/write head from the inner information track to a first
information between the inner information track and the outer
information track;
(c4b) dwelling on the first information between the inner information track
30 and the outer information track for a predetermined period of time;
(c4c) dislodging debris from a recording surface of the disc;
(c4d) aligning the read/write head with a second information track between
the inner information track and the outer information track;

(c4e) dwelling on the second information track between the inner information track and the outer information track for a predetermined period of time;

(c4f) dislodging debris from the recording surface of the disc; and

5 (c4g) repeating process steps (c4a) through (c4f) for each information track between the inner information track and the outer information track.

10 4. The method of claim 3, in which the first information track is adjacent the inner information track.

5. The method of claim 3, in which the second information track is adjacent the first information track.

15 6. The method of claim 3, in which the disc is rotated by a spindle motor assembly of the data storage device at a substantially constant rotational velocity, and in which the predetermined period of time for dwelling on each information track, between the inner information track and the outer information track of (c4g) is less than a time for the disc to rotate one revolution.

20 7. The method of claim 3, in which the disc is rotated by a spindle motor assembly of the data storage device at a substantially constant rotational velocity, and in which the predetermined period of time for dwelling on each information track between the inner information track and the outer information track of (c4g) is at least a time for the disc to rotate one revolution.

25 8. The method of claim 2 in which the read/write head of aligning step (c4) collects debris, and in which the predetermined period of time of oscillating step (c6) comprising a time for executing a sequence of short seeks to dislodge the debris collected on the read/write head.

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9. A data storage device comprising:

a basedeck supporting a spindle motor assembly;

a disc with a recording surface having an information track attached to the spindle motor assembly, the information track being for data storage;

a head stack assembly supported by the basedeck and having a read/write head rotationally positionable adjacent the recording surface, the read/write head comprising a read element for reading data from the information track and a write element for writing data to the information track; and

a fly height adjusted sweep cycle routine provided by steps for reducing wear between the disc and the read/write head of the data storage device.

10. The data storage device of claim 9, in which the steps for reducing wear between the disc and the read/write head of the data storage device comprising steps of:

(a) detecting an idle condition of the data storage device;

(b) raising a fly height of the read/write head to a maximum setting;

(c) executing a sweep cycle routine; and

(d) lowering the read/write head to a data transfer fly height upon receipt of a seek command to improve the reliability of the data storage device.

11. The data storage device of claim 10, in which the sweep cycle routine of executing step (c) is executed by steps comprising:

(c1) setting a sweep cycle timer;

(c2) moving the read/write to an inner information track of the disc;

(c3) lowering the fly height of the read/write head;

(c4) aligning the read/write head with an outer information track of the disc;

(c5) raising the fly height of the read/write head to the maximum setting; and

(c6) oscillating the read/write for a predetermined period of time.

12. The data storage device of claim 11, in which the read/write head of aligning step (c4) is aligned with the outer information track of the disc by steps
5 comprising:

(c4a) moving the read/write head from the inner information track to a first information between the inner information track and the outer information track;

10 (c4b) dwelling on the first information between the inner information track and the outer information track for a predetermined period of time;

(c4c) dislodging debris from a recording surface of the disc;

(c4d) aligning the read/write head with a second information track between the inner information track and the outer information track;

15 (c4e) dwelling on the second information track between the inner information track and the outer information track for a predetermined period of time;

(c4f) dislodging debris from the recording surface of the disc; and

20 (c4g) repeating process steps (c4a) through (c4f) for each information track between the inner information track and the outer information track.

13. The data storage device of claim 12, in which the first information track is adjacent the inner information track.

25 14. The data storage device of claim 12, in which the second information track is adjacent the first information track.

30 15. The data storage device of claim 12, in which the disc is rotated by a spindle motor assembly of the data storage device at a substantially constant rotational velocity, and in which the predetermined period of time for dwelling on each information track, between the inner information track and the outer information track of (c4g) is less than a time for the disc to rotate one revolution.

16. The data storage device of claim 12, in which the disc is rotated by a spindle motor assembly of the data storage device at a substantially constant rotational velocity, and in which the predetermined period of time for dwelling on each information track between the inner information track and the outer information track of (c4g) is at least a time for the disc to rotate one revolution.

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17. The data storage device of claim 11 in which the read/write head of aligning step (c4) collects debris, and in which the predetermined period of time of oscillating step (c6) comprising a time for executing a sequence of short seeks to dislodge the debris collected on the read/write head.

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